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PATENT  
3502-1073

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Markku Sakari KULOMAA et al. Conf. 7497

Application No. 10/525,409 Group 1645

Filed February 23, 2005

IMPROVED MUTANTS OF BIOTIN BINDING PROTEIN

INFORMATION DISCLOSURE STATEMENT

MS AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

July 27, 2005

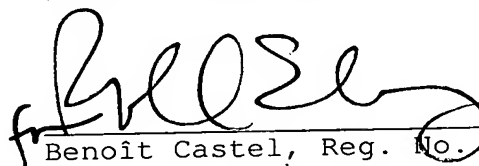
Sir:

In compliance with Rules 1.97 and 1.98, and in fulfillment of the duty of disclosure under Rule 1.56, the accompanying documents, copies of which are attached to this statement, are made of record on the enclosed Form PTO-1449.

A concise explanation of the relevance of these items is that these references were cited in the corresponding International Application Serial No. PCT/FI03/00619, filed August 22, 2003. A copy of the International search report in which they were cited is attached hereto.

Respectfully submitted,

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Application No.:  
**10/525,409**

Applicant:  
**Markku Sakari KULOMAA et al.**

Filing Date:  
**February 23, 2005**

Group Art Unit:  
**1645**

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

		Bayer, Edward A. et al., Applied Biochemistry and Biotechnology, Volume 53, 1995, "Preparation of Deglycosylated Egg White Avidin", pages 1-9
		Creighton, Thomas E., BioEssays, Volume 8, No. 2, 1988, "Disulphide Bonds and Protein Stability", pages 57-63
		Laitinen, Olli H. et al., Biochem. J. Volume 363, 2002, "Chicken avidin-related proteins show altered biotin-binding and physico-chemical properties as compared with avidin", pages 609-617, abstract, Figure 1; page 615, left column, second paragraph
		Marttila, Ari T. et al., FEBS Letters, Volume 467, 2000, "Recombinant NeutraLite Avidin: a non-glycosylated, acidic mutant of chicken avidin that exhibits high affinity for biotin and low non-specific binding properties", pages 31-36, the abstract; page 32, table 1; page 35, column 2, paragraph 3
		Matsumura, Masazumi et al., Nature, Volume 342, 16 November 1989, "Substantial increase of protein stability by multiple disulphide bonds", pages 291-293

(Use several sheets if necessary)

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**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

		Nordlund, Henri R. et al., The Journal of Biological Chemistry, Vol. 278, no. 4, 2003, "Enhancing the Thermal Stability of Avidin", pages 2479-2483
		Pace, C. Nick et al., The Journal of Biological Chemistry, Vol. 263, No. 24, 1988, "Conformational Stability and Activity of Ribonuclease T1 wit Zero, One, and Two Intact Disulfide Bonds", pp. 11820-11825
		Reznik, Gabriel O. et al., Nature Biotechnology, Vol. 14, 1996, "Streptavidins with intersubunit crosslinks have enhanced stability" pages 1007-1011

EXAMINER:

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

\* Abstract provided for the Examiner's convenience